

**REMARKS/ARGUMENTS*****Status of Claims***

Claims 21-23, 27-35, 37, 40, and 56-57 are pending in the Application.

Claim 21 is currently amended.

Claims 1-20, 24-26, 36, and 38-39 have been canceled.

Claims 41-55 were previously withdrawn.

Applicants hereby request further examination and reconsideration of the presently claimed Application.

***Amendment to the Specification***

Pursuant to MPEP § 2163.07(b), Applicants have amended paragraph [0016] of the specification to detail matter previously incorporated by reference.<sup>1</sup> Pursuant to 37 C.F.R. § 1.57, Applicants state that the inserted material was previously incorporated by reference and that the amendment contains no new matter. Amended paragraph [0016] reads:

[0016] Examples of ionic water-soluble hydrophobically modified polymers capable of forming gels without non-ionic surfactants or inorganic salts include: copolymers of stearylacrylate and acrylic acid; terpolymers of N-isopropylacrylamide, trimethyl acrylamidopropyl ammonium iodide, and 3-dimethyl-(methacryloxyethyl) ammonium propane sulfonate; copolymers of N-tertiarybutylacrylamide or N-isopropylacrylamide and 2-acrylamide-2-methyl propane sulfonic acid; and poly(ethyleneoxide)-block-poly(propyleneoxide)-block-poly(ethyleneoxide) grafted with polysodium acrylate. Additionally, further examples of ionic water-soluble hydrophobically modified polymers include copolymers of N-alkylacrylamides and ionic monomers as described

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<sup>1</sup> U.S. Patent Number 5,432,245 ("*Roberts*") discloses that the subject hydrophobically modified polymers are represented by the general formula  $-(A)_x-(B)_y-$ , wherein A can range from 40 – 99.9 mole percent of recurring units derived from one or more hydrophobic N-substituted acrylamide or methacrylamide monomers and B can range from 60 – .01 mole percent of recurring units of one or more ionic hydrophilic monomers. *See Roberts* at col. 3, line 17 – col. 4, line 30. In the interest of efficiency, Applicants have amended paragraph [0016] of the specification to include portions of *Roberts* particularly relevant to the instant matter. *See supra*.

in U.S. Patent No. 5,432,245. Particularly, U.S. Patent No. 5,432,245 provides that its hydrophobically modified polymers are represented by the general formula “-(A)<sub>x</sub>-(B)<sub>y</sub>-”, wherein A can range from 40 – 99.9 mole percent of recurring units derived from one or more hydrophobic N-substituted acrylamide or methacrylamide monomers and B can range from 60 – 0.1 mole percent of recurring units of one or more ionic hydrophilic monomers. U.S. Patent No. 5,432,245 incorporated by reference herein in its entirety.

### 35 U.S.C. §102(b) Rejections

Claims 21-23, 27, 28, 31-35, 38, and 39 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Evani, U.S. 6,169,058 (hereinafter *Evani* ). According to MPEP § 2131, “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” Applicants respectfully submit that the cited prior art does not teach or suggest each and every limitation set forth in the pending claims, and therefore does not anticipate the instant claims.

Claim 1 has been amended to read:

21. A well bore servicing fluid comprising a thermally activated viscosification composition comprising an ionic water-soluble, hydrophobically modified polymer;

wherein the ionic water-soluble, hydrophobically modified polymer is: a copolymer of N-alkylacrylamides and an ionic monomer; a copolymer of stearylacrylate and acrylic acid; a terpolymer of N-isopropylacrylamide, trimethyl acrylamidopropyl ammonium iodide, and 3-dimethyl-(methacryloxyethyl) ammonium propane sulfonate; a copolymer of N-tertiarybutylacrylamide or N-isopropylacrylamide and 2-acrylamide-2-methyl propane sulfonic acid; poly(ethyleneoxide)-block-poly(propyleneoxide)-block-poly(ethyleneoxide) grafted with polysodium acrylate; hydrophobically modified poly(sodium acrylate); or copolymer of N-vinylcaprolactam and sodium acrylate; and

wherein the copolymer of N-alkylacrylamides and an ionic monomer consists of 60 to 0.1 mole percent hydrophilic monomers and 40 to 99.9 mole percent hydrophobic monomers.

See *supra* at 2.

Support for the amending language is found in the specification. *See* Application at ¶ [0016] (“Examples of ionic water-soluble hydrophobically modified polymers capable of forming gels without non-ionic surfactants or inorganic salts include: copolymers of stearylacrylate and acrylic acid; terpolymers of N-isopropylacrylamide, trimethyl acrylamidopropyl ammonium iodide, and 3-dimethyl- (methacryloxyethyl) ammonium propane sulfonate; copolymers of N-tertiarybutylacrylamide or N-isopropylacrylamide and 2-acrylamide-2-methyl propane sulfonic acid; and poly(ethyleneoxide) -block-poly(propyleneoxide)-block-poly(ethyleneoxide) grafted with polysodium acrylate. Additionally, further examples of ionic water-soluble hydrophobically modified polymers include copolymers of N-alkylacrylamides and ionic monomers as described in U.S. Patent No. 5,432,245. Particularly, U.S. Patent No. 5,432,245 provides that its hydrophobically modified polymers are represented by the general formula “-(A)x’-(B)y’-”, wherein A can range from 40 to 99.9 mole percent of recurring units derived from one or more hydrophobic N-substituted acrylamide or methacrylamide monomers and B can range from 60 to 0.1 mole percent of recurring units of one or more ionic hydrophilic monomers. U.S. Patent No. 5,432,245 incorporated by reference herein in its entirety.”). *See also* Application at ¶ [0017] (“An example of an ionic water-soluble hydrophobically modified polymer capable of forming a gel when used in combination with a nonionic surfactant includes hydrophobically modified poly(sodium acrylate) combined with an oligoethylene glycol monodecyl ether surfactant. An example of an ionic water-soluble hydrophobically modified polymer capable of forming a gel when used in combination with an inorganic metal ion includes a copolymer of N-vinylcaprolactam and sodium acrylate combined with a calcium salt as described in Peng et al., “Ca<sup>2+</sup> Induced Thermoreversible and Controllable Complexation of Poly(N-vinylcaprolactam-co-sodium acrylate) Microgels in Water,” 105 J. Phys. Chem. B, p 2331-2335 (2001), which is

incorporated by reference herein in its entirety. It is understood that any combinations of the foregoing examples of ionic and non-ionic hydrophobically modified polymers may be used in the well bore servicing fluid.”).

**Evani Does Not Teach The Same Polymers As The Instant Application.**

*Evani* does not disclose its mobility control agent as comprising: a copolymer of stearylacrylate and acrylic acid; a terpolymer of N-isopropylacrylamide, trimethyl acrylamidopropyl ammonium iodide, and 3-dimethyl-(methacryloxyethyl) ammonium propane sulfonate; a copolymer of N-tertiarybutylacrylamide or N-isopropylacrylamide and 2-acrylamide-2-methyl propane sulfonic acid; poly(ethyleneoxide)-block-poly(propyleneoxide)-block-poly(ethyleneoxide) grafted with polysodium acrylate; hydrophobically modified poly(sodium acrylate); or copolymer of N-vinylcaprolactam and sodium acrylate. See *Evani* at col. 5, line 38 – col. 6, line 46.

Furthermore, although *Evani* can be read to disclose its mobility control agent as comprising a copolymer of N-alkyl, ethylenically unsaturated amides and an ionic monomer, which could be considered similar to the instant application’s “copolymer of N-alkylacrylamides and an ionic monomer,” *Evani*’s disclosure limits the composition of its polymer to 99.995% to about 90% hydrophilic monomer and 0.005% to about 10% hydrophobic monomer. Compare *Evani* at col. 5, lines 20-28 (“[T]he hydrophilic/hydrophobic polymer is a copolymer of from about 90 to about 99.995, more preferably from about 98 to about 99.995, most preferably from about 99 to about 99.9, mole percent of one or more water-soluble monomers with from about 0.005 to about 10, more preferably from about 0.005 to 2, most preferably from about 0.1 to about 1, mole percent of one or more hydrophobic monomers.”) to Application Claim 1 (“[T]he copolymer of N-

alkylacrylamides and an ionic monomer consists of 60 to 0.1 mole percent hydrophilic monomers and 40 to 99.9 mole percent hydrophobic monomers.”).

As is evident for the subject disclosures, the composition of *Evani*’s mobility control agent is quite different from the instant application’s thermally activated viscosification composition. Whereas *Evani* teaches that its mobility control agent’s hydrophobic monomer content is limited to a maximum of “about 10 . . . mole percent;” the instant application teaches that its N-alkylacrylamide hydrophobic monomer comprises 40 to 99.9 mole percent of the thermally activated viscosification composition. Based on the foregoing, *Evani* does not disclose the instant application’s thermally activated viscosification composition.

### **35 U.S.C. § 103(a) Rejections**

Claims 21-23, 27, 32, 33, 35, and 57 stand rejected under 35 U.S.C. § 103(a) as being unpatentable *Evani*. Claims 29, 30 and 56 stand rejected under 35 USC § 103(a) as being unpatentable over *Evani* in view of Reddy, et al., U.S. 6,444,316 (hereinafter *Reddy*). Claim 37 stands rejected under 35 USC § 103(a) as being unpatentable over *Evani* in view of Le, et al., U.S. 6,169,058 (hereinafter *Le*). Claim 40 stands rejected under 35 USC § 103(a) as being unpatentable over *Evani* in view of Tomaszewski, et al., U.S. 5,192,461 (hereinafter *Tomaszewski*). Thus, claims 21-23, 27, 29, 30, 32, 33, 35, 37-40, and 56-57 stand or fall on the application of *Evani* to the claims.

As noted by the United States Supreme Court in *Graham v. John Deere Co. of Kansas City*, an obviousness determination begins with a finding that “the prior art as a whole in one form or another contains all” the elements of the claimed invention. See *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 22 (U.S. 1966).

As explained in reference to the § 102(b) rejections above, *Evani* fails to teach or suggest the limitations contained in amended claim 21. Because the claimed “thermally activated viscosification composition” and *Evani*’s “mobility control agent” composition are not the same, the Office Action’s concurrent rejections for obviousness under 35 U.S.C. § 103 and for anticipation under 35 U.S.C. § 102(b) are improper. *See In re Best*, 195 USPQ 430, 433 n.4 (CCPA 1977).

In addition, all dependent claims incorporate the limitations of the claims they depend on. Because claims 22, 23, 27, 29, 30, 32, 33, 35, 37-40, and 56-57 depend on and; therefore, incorporate the limitations of amended claim 21, and *Evani* fails to teach the limitations of amended claim 21, *Evani* also fails to teach or suggest the limitations contained in claims 22, 23, 27, 29, 30, 32, 33, 35, 37-40, and 56-57. The Office Action does not cite *Reddy, Le, Tomaszewski*, or other prior art references, to teach the limitations that are absent from *Evani*. Thus, the Office Action does not establish a *prima facie* case of obviousness as to claims 22, 23, 27, 29, 30, 32, 33, 35, 37-40, and 56-57 which are allowable over the cited prior art.

**CONCLUSION**

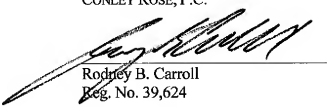
Consideration of the foregoing amendments and remarks, reconsideration of the application, and withdrawal of the rejections and objections is respectfully requested by Applicants. No new matter is introduced by way of the amendment. It is believed that each ground of rejection raised in the Office Action dated July 26, 2007 has been fully addressed. If any fee is due as a result of the filing of this paper, please appropriately charge such fee to Deposit Account Number 50-1515 of Conley Rose, P.C., Texas. If a petition for extension of time is necessary in order for this paper to be deemed timely filed, please consider this a petition therefore.

If a telephone conference would facilitate the resolution of any issue or expedite the prosecution of the application, the Examiner is invited to telephone the undersigned at the telephone number given below.

Respectfully submitted,

CONLEY ROSE, P.C.

Date: 10-25-07



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